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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,844	12/15/1999	SHIJUN YANG	DN97-038	1439

7590 10/28/2003  
GILBERT W RUDMAN  
ELF ATOCHEM NORTH AMERICA INC  
2000 MARKET STREET  
PHILADELPHIA, PA 191033222

EXAMINER
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MEDLEY, MARGARET B

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/445,844	YANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Margaret B. Medley	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,7 and 9-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-15 and 20 is/are allowed.
- 6) ☒ Claim(s) 1,3,7,9-11,16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17 (e), was filed in this application after the final rejection. Since this application is eligible for continued examination under 37CFR1.114, and the fee set forth in 37CFR 1.17 (e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR1.114. Applicant's submission filed on July 21, 2003 has been entered.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, 7, 9-10 and 16-19 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. The impact modifier comprising a multi-stage sequentially produced is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356, (CCPA 1976). The disclosure set forth on page 10, lines 4-26 and Tables I and II demonstrates that the said features is critical to the instant claimed invention but applicants have failed to set forth said technical features in the instant claims.

Claims 11 and 17 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. The impact modifier comprising a multi – stage subsequently produced polymer containing an elastomeric polymer is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*,

527 F.2d 1229, 188 USPQ 356, (CCPA 1976). The disclosure set forth on page 10, lines 4-26 and Table I and II demo-states that the said feature is critical to the instant claimed invention but applicants have failed to set forth said technical feature in the instant claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 7 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "wherein the (meth) acrylic monomer... butyl methacrylate" of claim 7 is indefinite because it is unclear as to how it is related to claim 1. The "ander" term in line 3 of claim 11(b)(ii) rendered the clarity of the claim indefinite. The phrase "methyl methacrylate monomer units selected from one or more of methyl methacrylate, ethyl acrylate and acrylic acid" of claim 11 (b)(i) is indefinite and confusing because it is unclear how the latter two units can be a meth methacrylate monomer. Clarification of the claim is requested.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 7, 9-11 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minghetti et al 5,242,968, Ghahary 5,304,592 and Cozens et al 5,130,374.

Minghetti, note in the entirety; Ghahary, note column 1, lines 24-43, column 2, lines 20-50, column 3, lines 30-59 and column 4, lines 1-65; and Cozens et al, note column 2, lines 32-45, column 3, lines 63-68, and column 4, lines 1-65, teach and disclose acrylic thermoformable acrylic sheets, granite textured plastics and rigid thermoplastic compositions, processed for producing the same that render the claimed composite plastics compositions composite produced by said process for forming the same, extruded sheets and thermoformed product obvious. The prior art teaches and discloses various cross-linked polymers and thermoplastic matrix within applicants claimed ranges, which render the claimed invention obvious. It is further noted that Cozens teaches and discloses a polymethylmethacrylate matrix having cross-linked polymethacrylate particles disperse therein, note Table 1, particularly example 5, as well as, columns 5 and 6 for specific cross linkers and column 7, lines 20-27 for the ratio of cross linkers that render the instant claimed cross linkers obvious.

The thermoformable sheets of Minghetti used as anti-slip surfaces in bathtubs and shower stalls are reprocessed, note abstract, column 2, lines 12-15, lines 38-44 and column 5, line 62 to column 6, lines 1-5, 24-29 and 43-47. It is also noted that at lines 65-68 of column 2 that Minghetti provides teachings and disclosure that the syrup or suspending medium together with the ground PMMA becomes thixotropic and advantageously does not permit the swollen

particles to settle, thus achieving an even distribution. This teaching clearly rebuts applicants' argument that the PMMA polymer is critical for controlling the particle settling in the matrix. It is the **combination of the syrup or suspending medium together with the PMMA particles** that creates a thixotropic mixture preventing the particles from settling.

Ghahary explicitly provides teachings that granite-plastics are useful in molding and thermoforming and that the granite-plastics are a combination of thermoplastic and thermoset plastic in a thermoplastic matrix. It is the combination of the syrup or suspending medium together with the PMMA particles that creates a thixotropic mixture preventing the particles from settling.

Ghahary explicitly provides teachings that granite-plastics are useful in molding and thermoforming and that the granite plastics are a combination of thermoplastic and thermoset plastic in a thermoplastic matrix and the method of making said matrix, note the abstract, column 2, lines 30-66. Patentee further teaches that the granite-plastic composition is suitable for injection molding, blow molding, extrusion, etc, column 6, lines 1 to 18.

The prior art clearly teaches the artisan in the art that it would be reasonable to one of ordinary skill in the art that the thermoplastic matrix having particular cross linked polymer dispersed therein of the prior art are within the ranges that encompass the ranges of the instant claims and that the composition is capable of multiple passes through extrusion or molding.

The examiner has given a careful study and reconsideration of the instant claims and data provided in the Tables II and I on pages 24 and 26 of the instant applications. It has been determined by the examiner that claims 12-15 and 20 are allowable over the prior art made of record and relied upon. However the remaining claims 1, 3, 7, 9-11 and 16-19 are not

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commensurate in scope with the results with the data presented in Tables I and II that require the presence of the "impact modifier that is a multi-stage sequentially-produced polymer comprising at least three stages...third stage.

The prior art cited but not applied further discloses and teaches thermoplastic matrix having cross-linked polymers dispersed therein of the same nature as that of the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret B. Medley whose telephone number is 703-308-2518. The examiner can normally be reached on Monday-Friday from 7:30 am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

M. Medley/lap  
October 22, 2003

  
MARGARET MEDLEY  
PRIMARY EXAMINER